

NUCLEIC ACID DETECTION USING STRUCTURED PROBES

ABSTRACT OF THE DISCLOSURE

Disclosed are compositions and a method for detection of nucleic acid sequences. The disclosed method uses a structured probe to distinguish between sequences. Structured probes are bifunctional molecules where one function is as a probe to a target nucleic acid sequence and the other function is as a detection sequence to facilitate detection of the probe. Structured probes include a detection sequence, sequence complementary to a target sequence, and sequences that form duplex regions (higher order structures). The duplex region is stable unless the probe hybridizes to the target sequence. The disclosed method involves hybridizing the structured probe to a target sequence and detecting the detection sequence on the structured probe. The detection sequence is available for detection only if the duplex region of the structured probe is disrupted. This links detection of the structured probe with the hybridization of the structured probe to the target sequence.